SWEN90016

Software Processes & Project Management

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2019 – Semester 1

Lecture 3

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L1 – Quiz

1. Feed back from previous semester.
2. Not marked.
3. Exam multiple choice questions will be selected from these.

Respond at **PollEv.com/harrydrakos482**

Text **HARRYDRAKOS482** to **+61 427 541 357** once to join, then text your message

From the Vice-Chancellor

A message after Christchurch

18 March 2019

Dear colleagues

After the violence in Christchurch last Friday, I want to extend my condolences to the victims' families and to our many New Zealand colleagues, students and friends. I am sending a particular message of support to our Muslim community here at the University of Melbourne, and want to say to each Muslim staff member and student that your presence with us is valued highly by us all.

I also want to remind everyone that counselling is available through the University for those who need it in the wake of these and other traumatic events. You may find more information about available services by visiting Counselling and Psychological Services or calling 8344 6927.

Such appalling acts as those witnessed on Friday should bring us to a deeper realisation of the importance of the work we do in this university, and of the values of respect, diversity and inclusion which are central to campus life. Terrible events like those in Christchurch remind us of the fundamental importance of education in building respect in a safe society.

Duncan Maskell

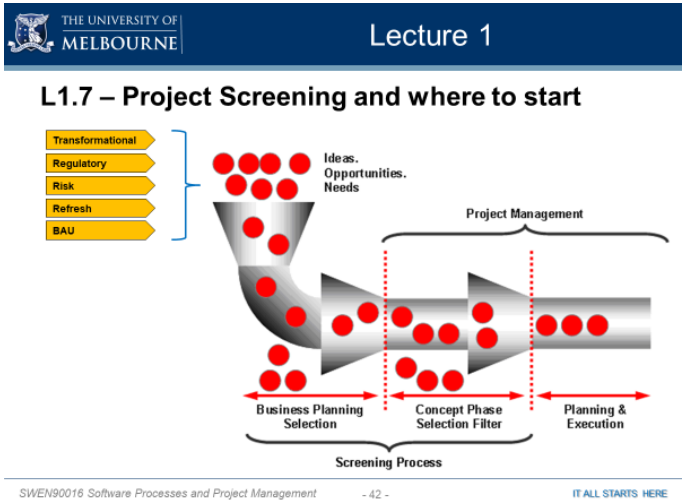
Lecture 2 – Questions

Question - There is something confusing in the structure of the content that is being delivered:

1. On week 1 you presented that the initial project screening process happened **before** any project manager gets involved and that the project initialisation process (case study, constraints, business case and charter) are part of the project initialization process.
2. On week 2 (Slide 24) the business case is presented as part of the **planning process,** which is confusing.

- *Can you please clarify this*

1. The screening process (L1.7 slide 42) occurs before any PM is involved. It is a mechanism for organisations to undertake an initial review and filtering of all projects wishing to be undertaken. This is required as there is always more projects to be completed than there are funds to allocate.



Lecture 2 – Questions

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2. On week 2 (Slide 24) the business case is presented as part of the **planning process,** which is confusing.

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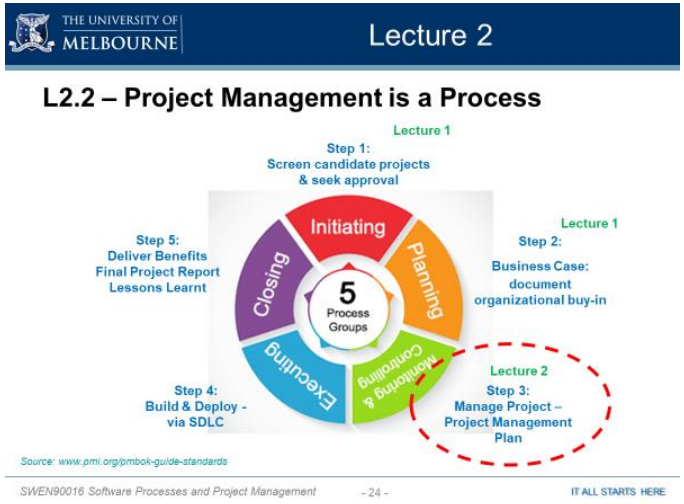
2. The Project Management process we follow for these lectures is based on the PMBOK model. This model defines that the ***"Initialisation Stage"*** (not the Planning Stage as listed in Lecture 2) is where the detailed analysis and supporting information (the Business Case) is completed. The Business Case is a detailed document that is typically prepared by the PM (once the project has had initial support through the ***Screening Process***). It captures a level of information that allows an organisation to decided to approve / fund the project or not. Organisations often stop projects once the business case has been completed as the detail often highlighights that the key benefits do not stack up.

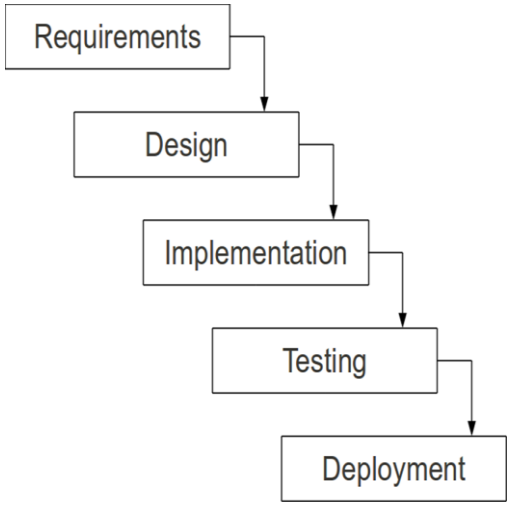


Lecture 2 – Recap

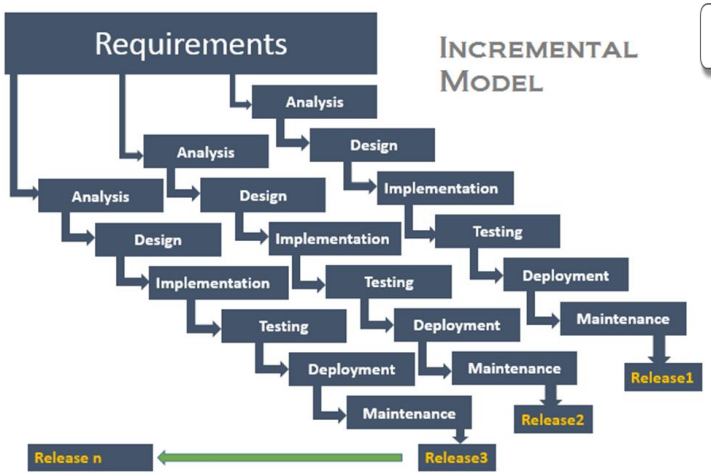
1. Understand what a Process is and its relevance to Project Management.
2. Understand what a Project Management Plan (PMP) is and when it should be used.
3. Understand the components of a Project Management Plan.
4. Understand what a Software Development Lifecycle (SDLC) – Formal & Agile.

Lecture 2 – Recap
SDLC – Formal Models

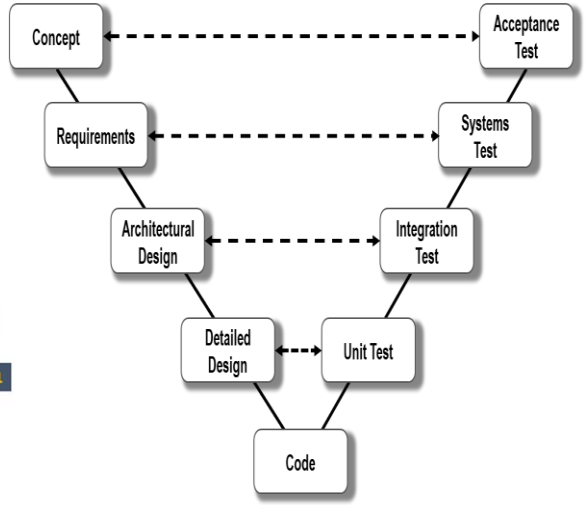
Waterfall



Incremental

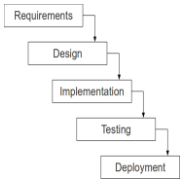


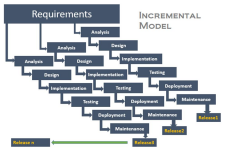
V-Model



Lecture 2 – Recap

SDLC – Formal Models

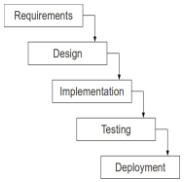


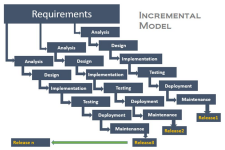


Waterfall, Incremental & V-Model - how they operate

Activities	Teams
Divide the work into stages	A separate team of specialists for each stage
At each stage, the work is passed from one team to another	Some coordination is required for the handoff from team to team – using “documents”
At the end of all of the stages, you have a software product ready to ship	As each team finishes, they are assigned to a new product

Lecture 2 – Recap
SDLC – Formal Models





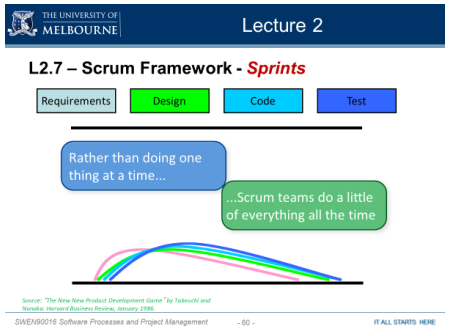
Waterfall, Incremental & V-Model – when do they make sense

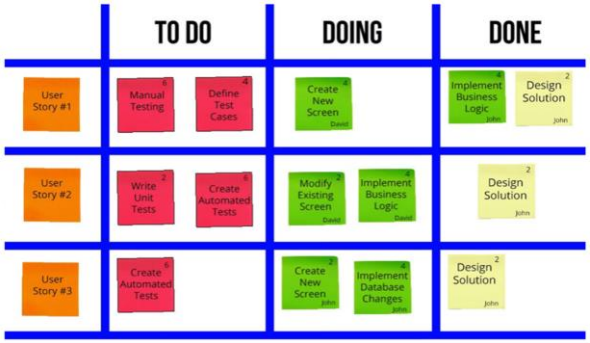
- Where the customer has a clear view of what they want
- Projects that require little or no change to requirements
- Requirements are clearly defined and documented
- Development technologies and tools are well-known
- Large scale applications and systems developments

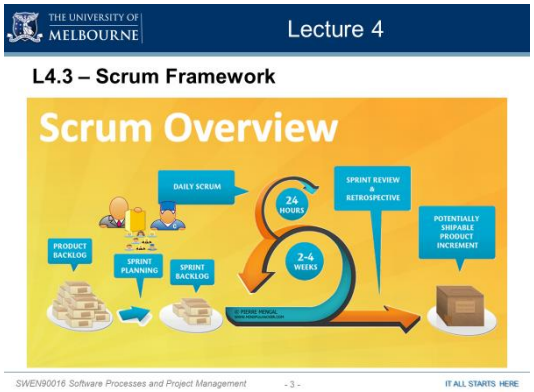
Lecture 2– Recap

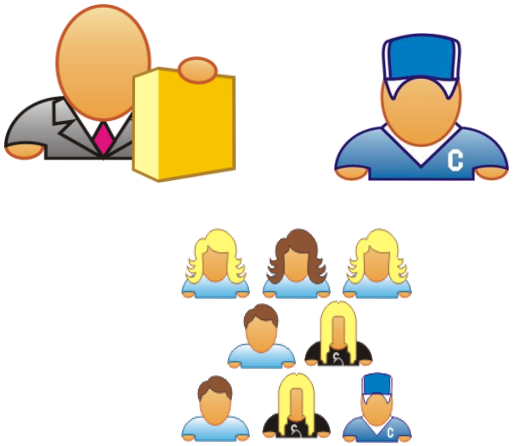
MANIFESTO

**Widely used across industry – not always in its original form.
It is NOT Dead!**









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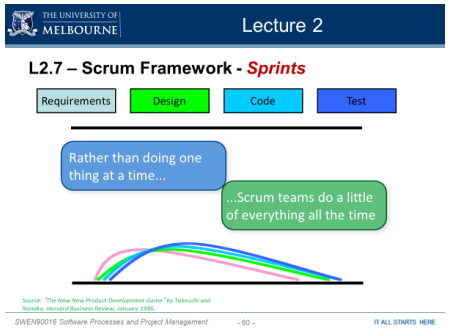

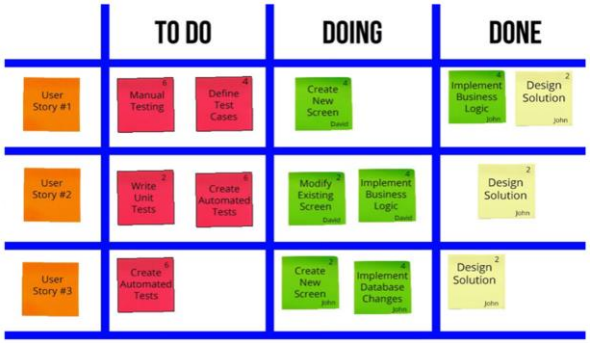

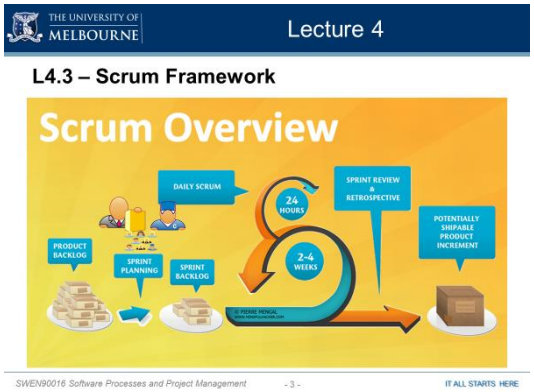

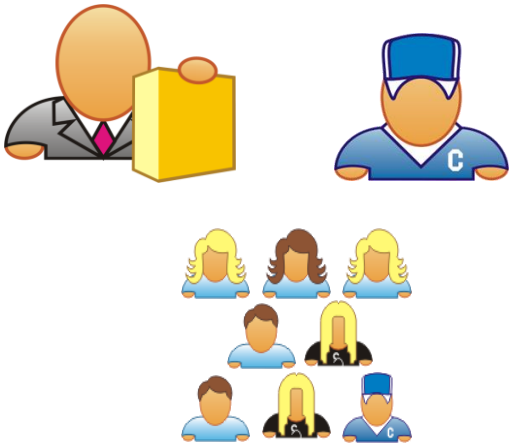

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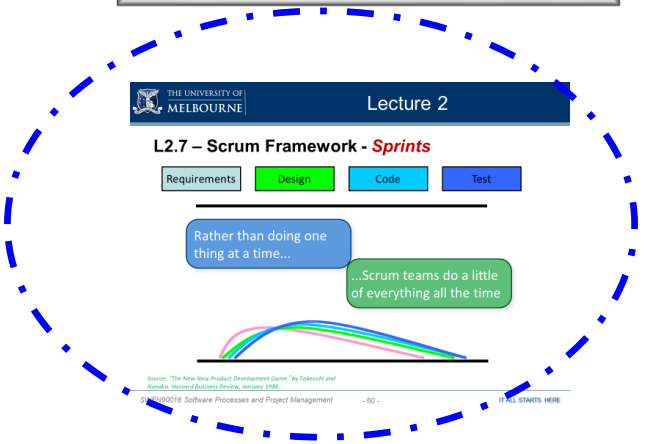

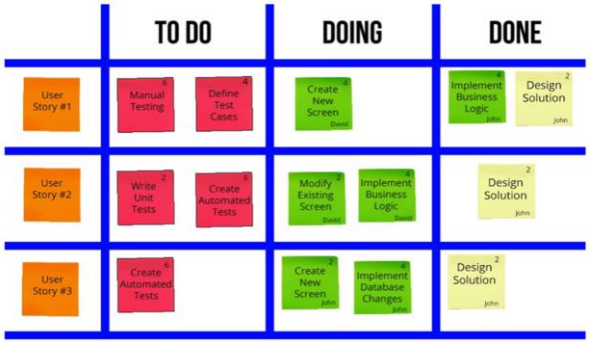

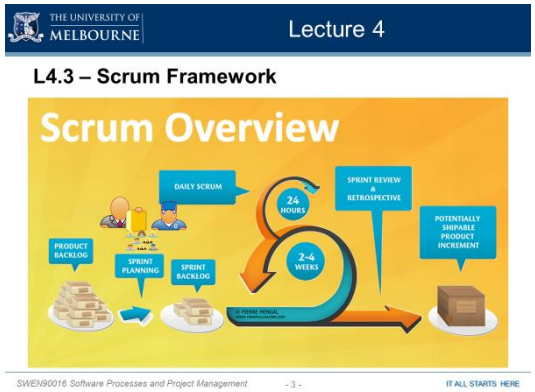

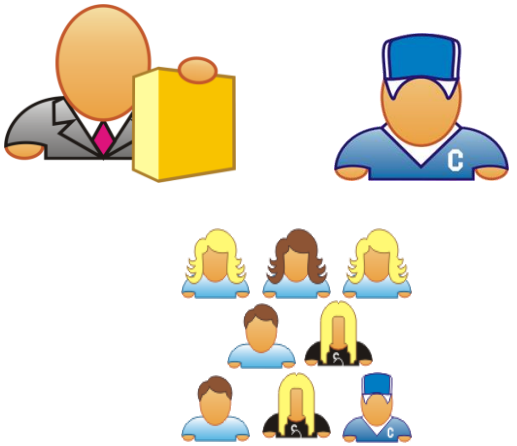

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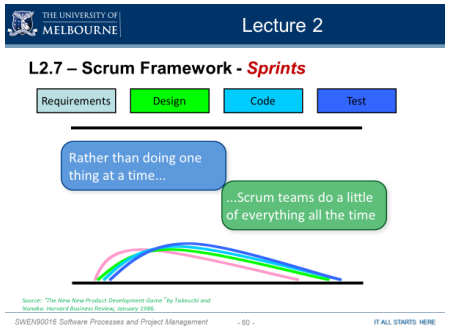

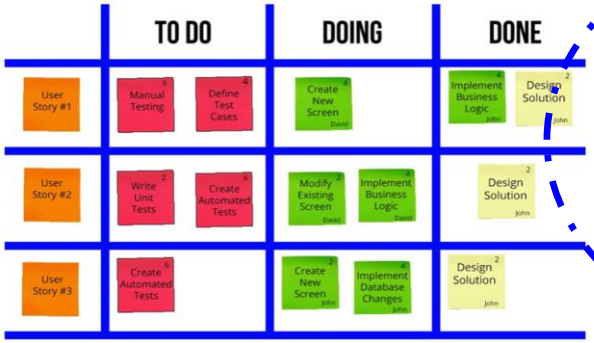

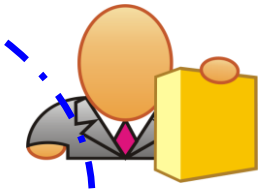

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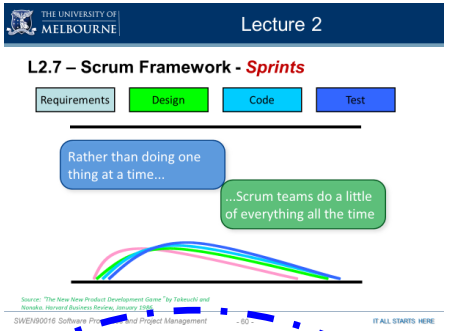

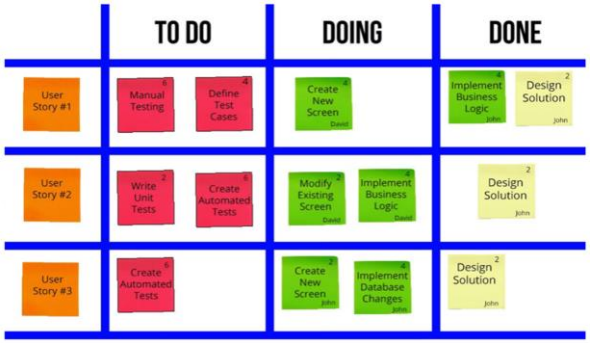

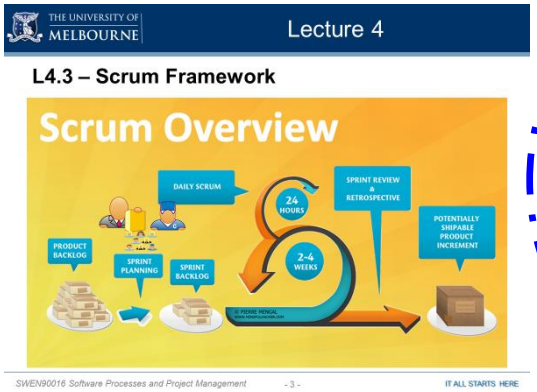

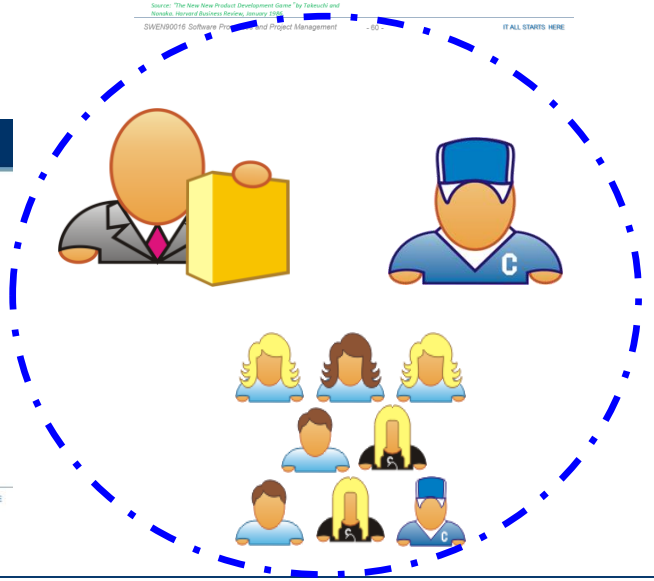

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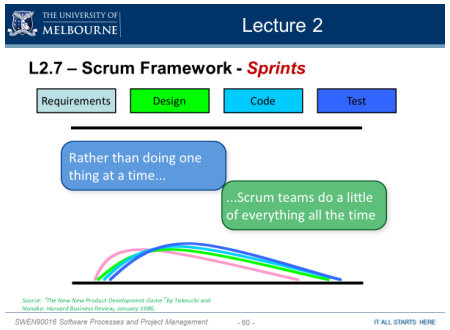

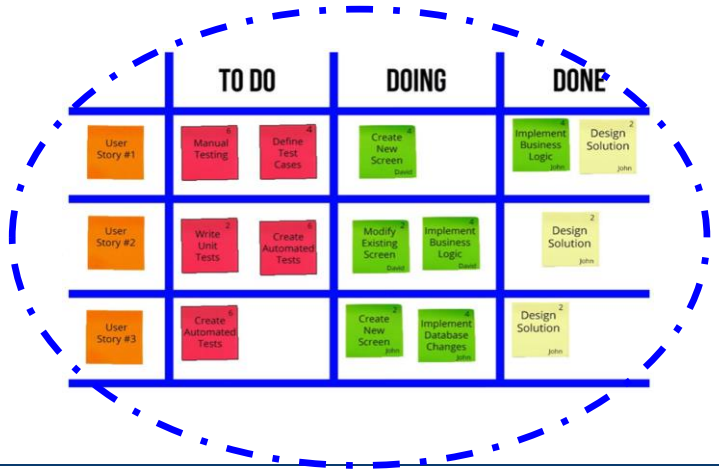

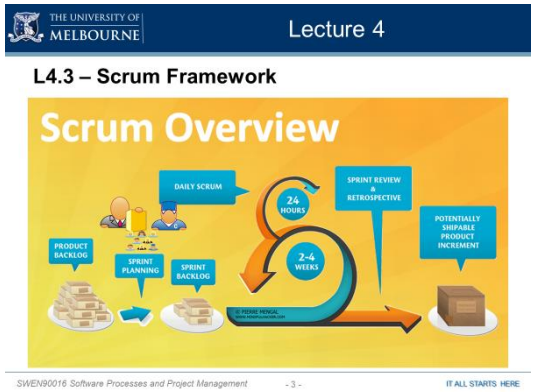

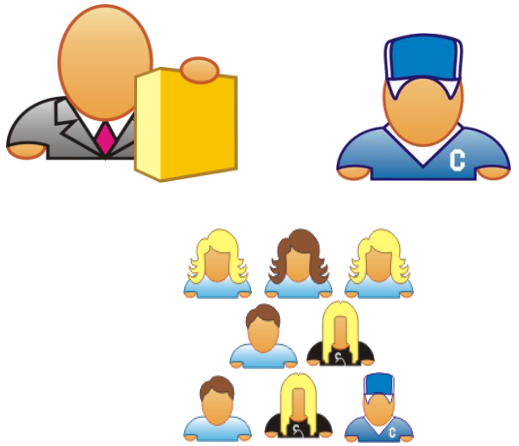

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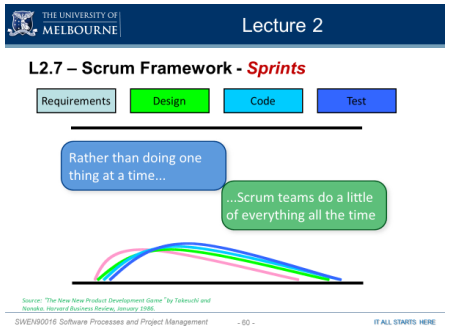

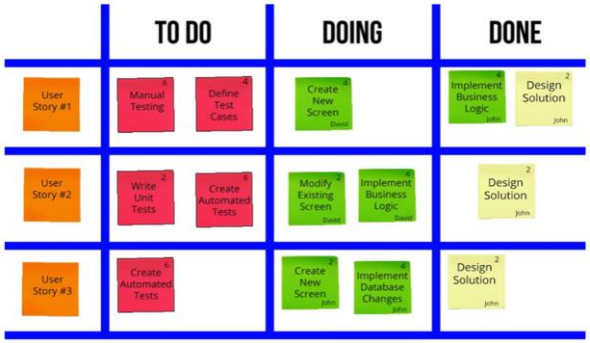

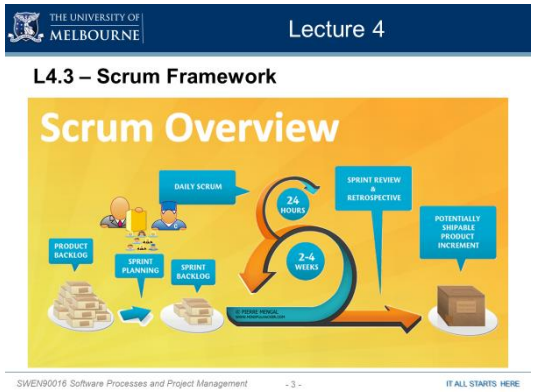

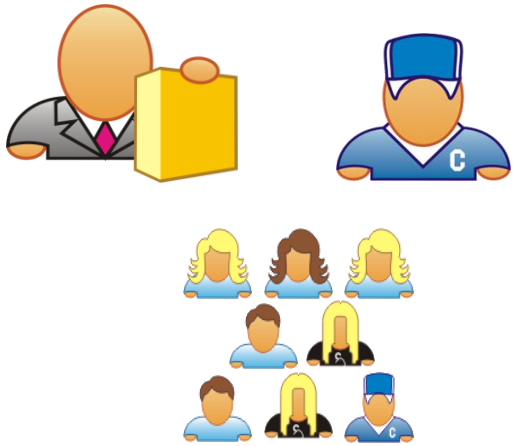

L2 - Recap

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Semester Structure

Week #	Lecture Date	Lecture Law G15 – Thursday 9.00am to 11.00am	Assignment
1	07/03/19	Subject Introduction, Introduction to Projects and Project Management,	
2	14/03/19	Project Management Plan & SDLC's	Assignment 1 Spec available on LMS 15/3
3	**21/03/19**	**Individuals, Motivation and Teams**	
4	28/03/19	Stakeholder Management Communication Management	Assignment 2 available & Groups created during the workshops / tutorials – attendance mandatory
5	04/04/19	Project Planning and Scheduling Assignment 1 & 2 open forum / discussion	Assignment 1 (Individual) due Fri 5/4 @ 11.59 pm
6	11/04/19	Cost Estimation	
7	18/04/19	Risk Management	
	25/04/19	***Non Teaching Week – Mid semester break***	Assignment 2 (Part 1) due Wed 24/4 @ 11.59 pm
8	02/05/19	Quality Management	
9	09/05/19	Configuration Management (including guest lecture)	Assignment 2 (Part 2) due Sat 11/5 @ 11.59 pm
10	16/05/19	Ethics, Outsourcing & Procurement	Assignment 2 (Part 3) due Sat 18/5 @ 11.59 pm
11	23/05/19	Guest Lecture	Assignment 2 (Final) due Sat 25/5 @ 11.59 pm
12	30/05/19	Subject Revision and Exam Prep	Assignment 2 Project Demonstration during tutorials

L3 - Intended Learning Objectives

L3.1 Understand motivation.

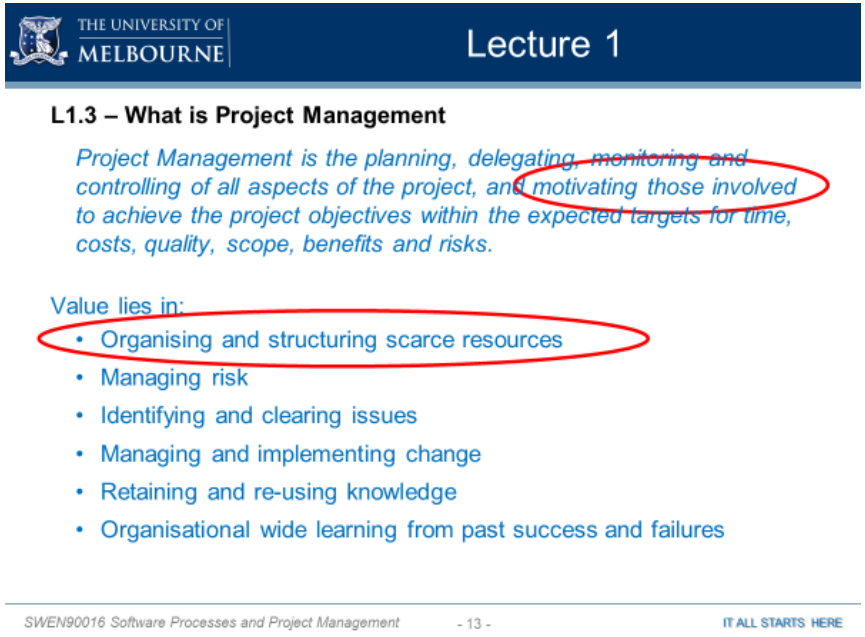
L3.2 Understand organisational theory and how people are motivated.

L3.3 Understand how leaders lead and managers manage.

L3.4 Understand how to manage the most important project resource.

L3.1 – Teams, Individuals and Motivation

So why is this important to Project Management?



THE UNIVERSITY OF MELBOURNE Lecture 1

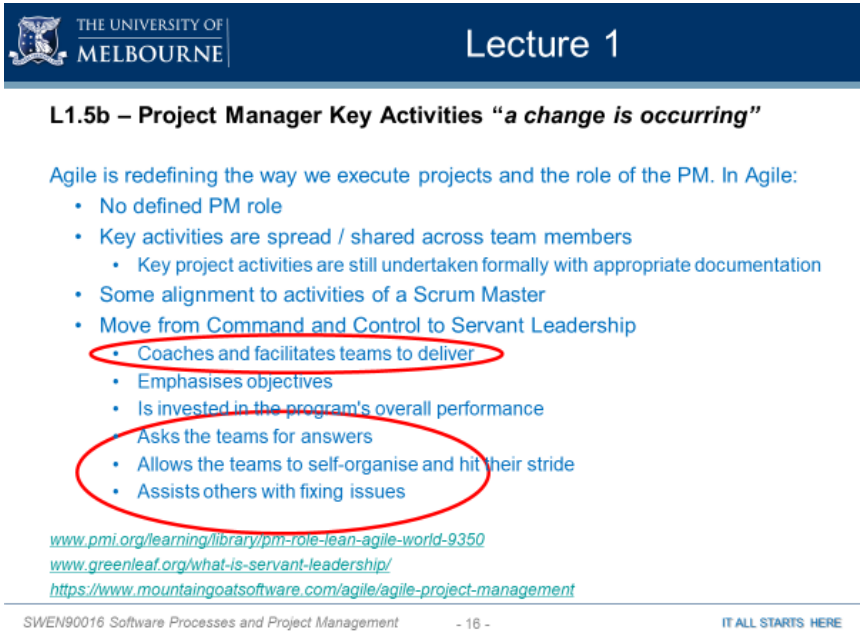
L1.3 – What is Project Management

Project Management is the planning, delegating, monitoring and controlling of all aspects of the project, and motivating those involved to achieve the project objectives within the expected targets for time, costs, quality, scope, benefits and risks.

Value lies in:

- Organising and structuring scarce resources
- Managing risk
- Identifying and clearing issues
- Managing and implementing change
- Retaining and re-using knowledge
- Organisational wide learning from past success and failures

SWEN90016 Software Processes and Project Management - 13 - IT ALL STARTS HERE



THE UNIVERSITY OF MELBOURNE Lecture 1

L1.5b – Project Manager Key Activities *"a change is occurring"*

Agile is redefining the way we execute projects and the role of the PM. In Agile:

- No defined PM role
- Key activities are spread / shared across team members
  - Key project activities are still undertaken formally with appropriate documentation
- Some alignment to activities of a Scrum Master
- Move from Command and Control to Servant Leadership
  - Coaches and facilitates teams to deliver
  - Emphasises objectives
  - Is invested in the program's overall performance
  - Asks the teams for answers
  - Allows the teams to self-organise and hit their stride
  - Assists others with fixing issues

www.pmi.org/learning/library/pm-role-lean-agile-world-9350
www.greenleaf.org/what-is-servant-leadership/
https://www.mountaingoatsoftware.com/agile/agile-project-management

SWEN90016 Software Processes and Project Management - 16 - IT ALL STARTS HERE

L3.1 – Individuals and Motivation

- Motivation *is derived from the word 'motive'*
- It is the driving force within individuals that propels them into action

Motivation can inspire, encourage, and stimulate individuals and project teams to achieve great accomplishments. Motivation can also create an environment that fosters teamwork and collective initiatives to reach common goals or objectives.

www.pmi.org/learning/.../motivation-increase-project-team-performance-7234

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What motivates you?

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L3 - Intended Learning Objectives

~~L3.1 Understand motivation.~~

L3.2 Understand organisational theory and how people are motivated.

L3.3 Understand how leaders lead and managers manage.

L3.4 Understand how to manage the most important project resource.

L3.2 – Individuals and Motivation

Organisational Theory

Organisational theory consists of approaches to organisational analysis. Organisations are groups of individuals that are structured and managed to meet a need, or to pursue collective goals.

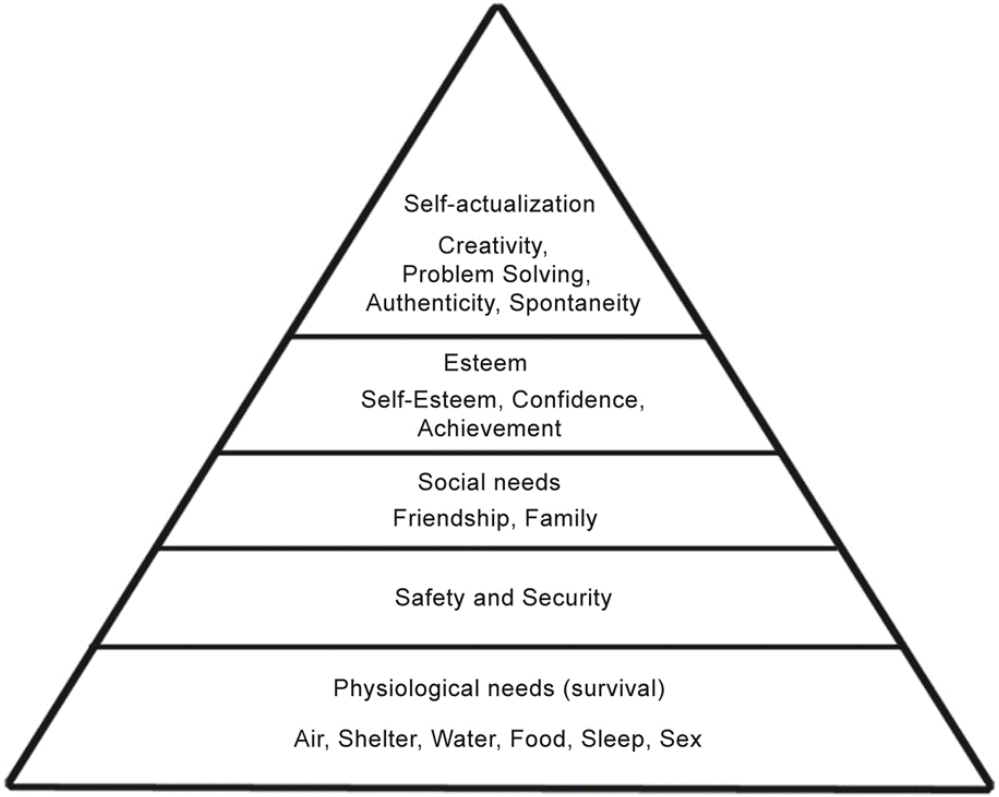
Some well used approaches:

- Maslow Hierarchy of Needs
- Hertzberg

L3.2 – Individuals and Motivation

Maslow Hierarchy of Needs:

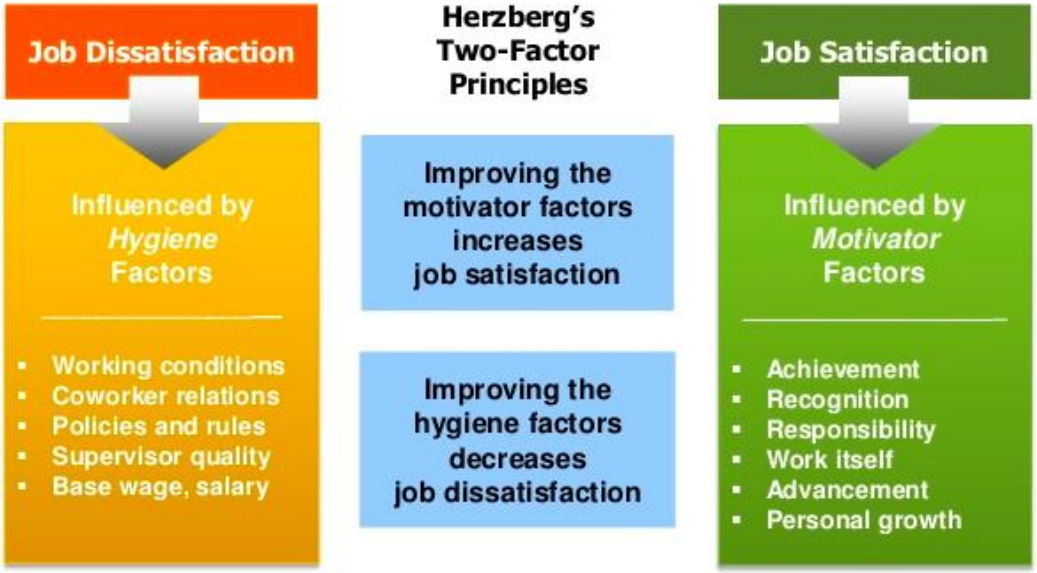
- Proposed by Abraham Maslow in 1943 and still widely used today
- A key tool used by managers in how individuals are motivated
- Focuses on a 5 tier model of human needs
- Describes humans are motivated to achieve certain needs
- Needs take precedence over others and the basic needs must be more or less met before higher needs
- Individual behaviour is multi-motivated and stimulated by more than one need



L3.2 – Individuals and Motivation

Hertzberg Two Factor Theory:

- Proposed by Fredrick Hertzberg in 1959 and still widely used today
- Asked people to describe situations when they felt really good and really bad about their jobs
- There are a set of factors in the workplace that cause satisfaction
- And a separate set of factors that cause dissatisfaction
- Remedying the causes of dissatisfaction will not create satisfaction



L3 - Intended Learning Objectives

~~L3.1 Understand motivation.~~

~~L3.2 Understand organisational theory and how people are motivated.~~

L3.3 Understand how leaders lead and managers manage.

L3.4 Understand how to manage the most important project resource.

L3.3 – How leaders lead and manage

Will motivate or demotivate the team!

- Leadership is the ability to influence and direct people to achieve a common goal
- Management is the process where resources are used and decisions made in order to achieve the goal
- Leaders will inspire and motivate people to meet the goal
- Managers will set objectives and decide how to achieve them
- Project Managers will need to be both Leaders & Managers

L3.3 – How leaders lead and manage

Through:

Power

Influence

L3.3 – How leaders lead and manage

REFERENT POWER	Based on followers' identification and liking for the leader. A schoolteacher who is adored by her students has referent power.
EXPERT POWER	Based on followers' perceptions of the leader's competence. A tour guide who is knowledgeable about a foreign country has expert power.
LEGITIMATE POWER	Associated with having status or formal job authority. A judge who administers sentences in the courtroom exhibits legitimate power.
REWARD POWER	Derived from having the capacity to provide rewards to others. A supervisor who gives rewards to employees who work hard is using reward power.
COERCIVE POWER	Derived from having the capacity to penalize or punish others. A coach who sits players on the bench for being late to practice is using coercive power.

Sage Publications

L3.3 – How leaders lead and manage

Influence

Nine Influence Factors [Thamhain & Wilemon]

1. ***Authority*:** Legitimate hierarchical.
2. ***Assignment*:** Perceived ability to influence future work assignments.
3. ***Budget*:** Perceived ability to authorise use of funds.
4. ***Promotion*:** Ability to improve workers position
5. ***Money*:** Ability to increase a workers pay & benefits
6. ***Penalty*:** Ability to cause punishment.
7. ***Work Challenges*:** Ability to assign work to individuals.
8. ***Expertise*:** Perceived special knowledge that others deem / think is important.
9. ***Friendship*:** Ability to establish friendly personal relationships.

L3 - Intended Learning Objectives

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L3.4 Understand how to manage the most important project resource.

L3.4 – Individuals & Motivation

The most important resource

- What is it?

L3.4 – Individuals & Motivation

The most important resource

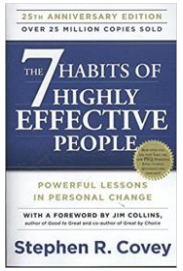
- What is it?

L3.4 – Individuals & Motivation

The most important resource

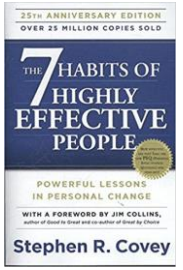
The Seven Habits of Highly Effective People [Stephen Covey]

1. They Take Initiative. ["*Be Proactive*"]
2. They Focus on Goals. ["*Begin with the End in Mind*"]
3. They Set Priorities. ["Put First Things First"]
4. They Only Win When Others Win. ["*Think Win/Win*"]
5. They Communicate. ["*Seek First to Understand, Then to Be Understood*"]
6. They Cooperate. ["*Synergise*"]
7. They Reflect on and Repair Their Deficiencies. ["*Sharpen The Saw*"]



Lecture 3

Manage Yourself	**Habit 1** Be Proactive© The Habit of choice	• See alternatives, not roadblocks • Focus on what you can influence • I am free to choose and am responsible for my choices
	Habit 2 Begin with the End in Mind© The Habit of Vision	• Mental creation precedes physical creation • Define practical outcomes
	Habit 3 Put First Things First© The Habit of Integrity and Execution	• Focus on the important, not just the urgent • Effectiveness requires the integrity to act on your priorities • Plan weekly, act daily
Lead Others	**Habit 4** Think Win/Win© The Habit of Mutual Benefit	• Effective long-term relationships require mutual respect and mutual benefit • Build trust with co-workers
	Habit 5 Seek First to Understand, then to be Understood© The Habit of Mutual Understanding	• To communicate effectively, we must first understand each other • Practice empathic listening • Give honest, accurate feedback
	Habit 6 Synergize© The Habit of Creative Cooperation	• The whole is greater than the sum of its parts • Synergize to arrive at new and better alternatives
Unleash Potential	**Habit 7** Sharpen the Saw© The Habit of Renewal	• To maintain and increase effectiveness, we must renew ourselves in body, heart, mind and soul



Stephen Covey

Lecture 3 – Leadership Summary

- Individuals are individuals and we are all motivated by different means
- Projects succeed / fail because of people so manage, lead and motivate them to increase success
- Leadership and Management are different. Consciously select the style that is right for the situation
- The biggest impact you can have is by managing yourself take the necessary step to achieve this

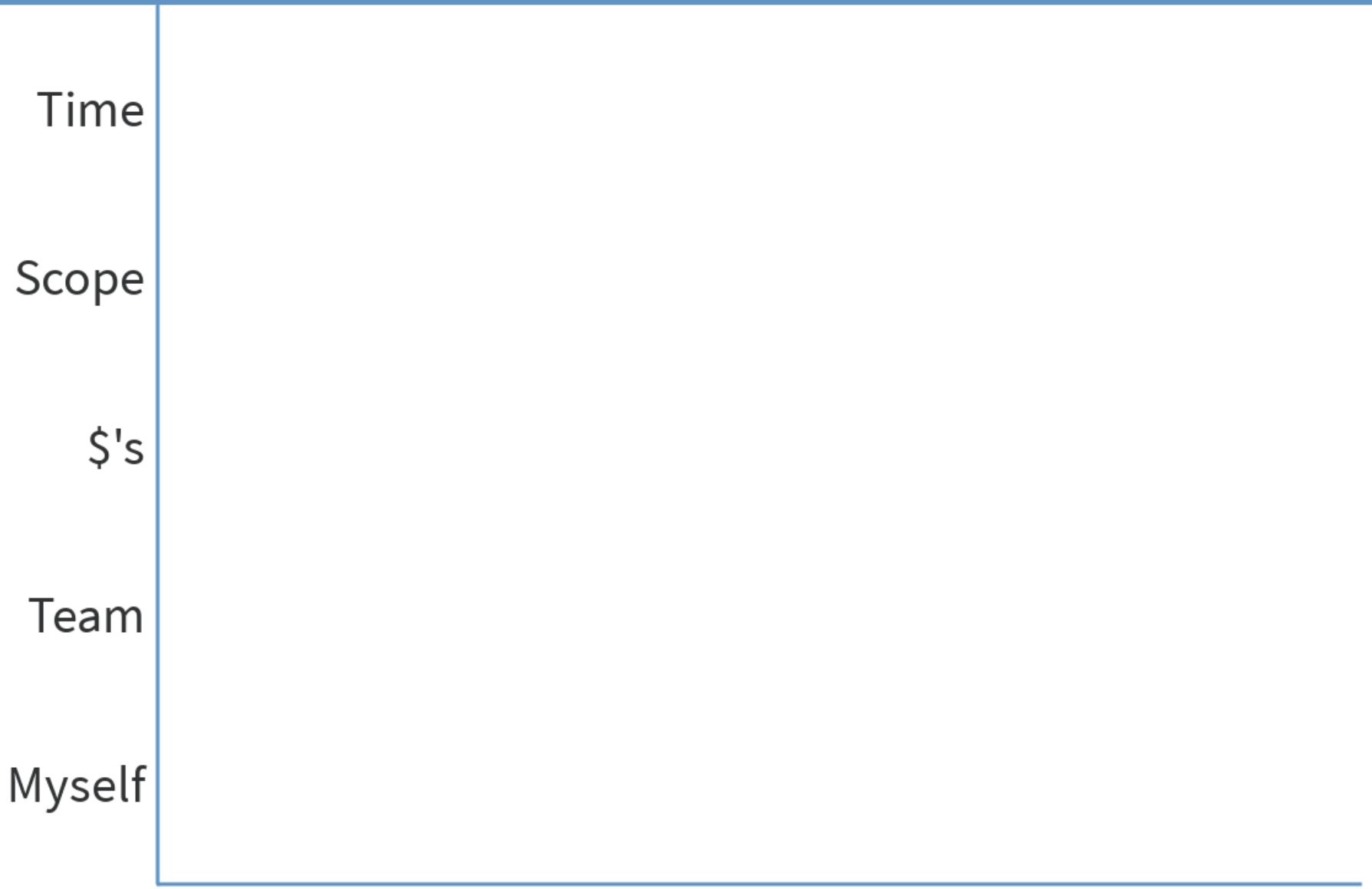
What motivates you?

Start the presentation to see live content. Still no live content? Install the app or get help at **PollEv.com/app**

Which group of Influencing Factors have the greatest impact on individuals?

Start the presentation to see live content. Still no live content? Install the app or get help at **PollEv.com/app**

Project Resources - what is the most important resource?



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Lecture Break

BREAK

Please return promptly as the

Lecture will re-start in *10 mins*

L3 – Teams and Teamwork

We have all experienced this!

L3 - Teams

Teamwork in the workplace is an **important** factor for **project** success. As a result, developing an effective **project team** is one of the primary responsibilities of a **project** manager. Teamwork is **important** because it creates human synergy.

L3 - Intended Learning Objectives

L3.5 Understand why we use teams and their value.

L3.6 Understand how teams form and perform.

L3.7 Understand team roles and structures.

L3.8 Understand the advantages & disadvantages of teams.

L3.5 – What is a Team

- An individual is a person with a unique set of skills
- A Group is a collection of people working together who do not necessarily work collectively toward the same goal
- A Team is two or more individuals consciously working together to achieve a common objective
- A Group becomes a Team when members demonstrate a commitment to each other and to the end goal toward which they are working

L3.5 – Why Teams

1. **Few individuals possess** all the knowledge, skills, and abilities needed to accomplish all tasks.
2. **Complementary teamwork skills** are one of the most **commonly required** skills in the work environment.
3. **Substantial benefits** to the organisation and to the team members.
4. **Shared accountability** increases likelihood of success**.**

L3.5 – Why Teams - Benefits

1. ***Enhanced Opportunities:*** Individuals & organisation.
2. ***Greater Productivity:*** Leverage the strengths and skills of the collective group.
3. ***Increased Ownership & Accountability:*** Multiple people collectively owning the activity and the outcome.
4. ***More Creativity and Innovation:*** Individuals build upon one another's ideas with solutions going beyond one person's vision of what's possible.
5. ***Greater Joy and Satisfaction Among Team Members:*** A space for people to socialise, connect and be part of something bigger.
6. ***Broader Perspective:*** Ability to leverage the collective perspective of all team members.
7. ***Increased Representation:*** Involvement of multiple stakeholders groups and their input.
8. ***Increased Equality:*** Individuals across all levels can more freely offer their ideas, knowledge and concerns.
9. ***More Dialogue:*** Teams offer a site where people can voice their feelings, disagreements, opinions and ideas.

L3 - Intended Learning Objectives

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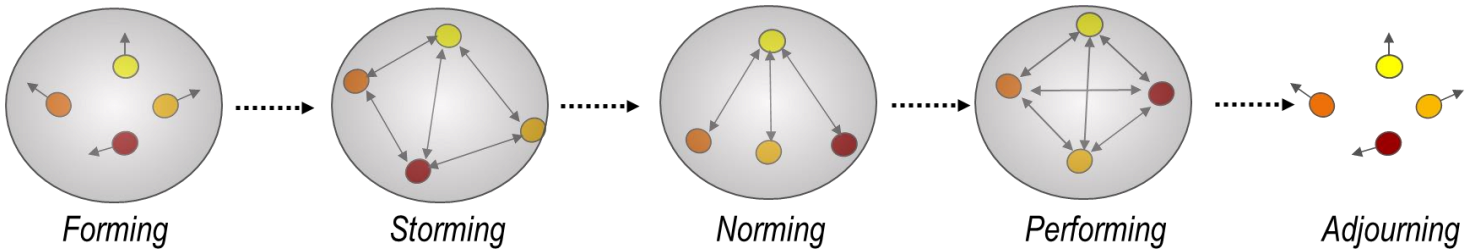
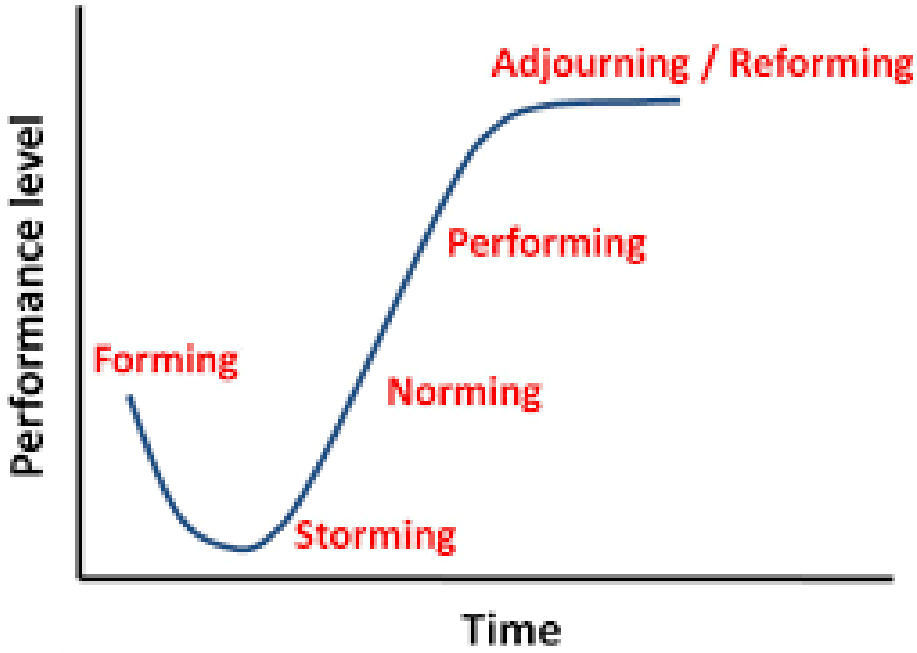
L3.6 – How teams Form & Perform Tuckman's Team Development Model

- First proposed by Bruce Tuckman in 1965
- Elegant and simple explanation of team development
- Initial model focused on 4 stages Forming–Storming–Norming- Performing
- Tuckman stated that all phases are necessary and inevitable if a team is to grow, face up to challenges, tackle problems, find solutions, plan work and deliver results
- He found that it was critical for team to go through an Adjourning stage which was added in the 70's



L3.6 – How teams Form & Perform Tuckman's Team Development Model

- As teams develop maturity and ability – leadership styles change and behaviors change
- Tuckman also found that Team Effectiveness changed over time with the team experiencing initial decline in performance after Stage 1 – Forming



https://project-management.com/the-five-stages-of-project-team-development/

L3.6 – How teams Form & Perform

FORMING

Establishing ground rules and preserving formalities

High dependency on the leader

STORMING

Members communicate, but maintain strict individuality

Leader coaches and support

NORMING

Team bonding and higher acceptance of perspectives

Leader moves to facilitator and enabler

PERFORMING

Less emphasis on hierarchy and more on flexibility

Leader delegates and oversees

ADJOURNING

Yearly assessment and plan for acknowledging individual contributions

Leader acknowledges, recognises and directs

L3.6 – Is the Team Effective or Not

Positive signs

- Clear communication
- Regular brainstorming with all members participating
- Consensus among team members
- Problem solving done by the group
- Commitment to the project outcomes and the other team members
- Regular team meetings are effective and inclusive
- Timely hand off from team members to others or early advise if this won't happen
- Positive, supportive working relationships

Not so Positive signs

- Lack of communication
- No clear roles and responsibilities
- Work is "thrown over the wall", with lack of concern for timelines or work quality
- Team members work alone, rarely sharing information and offering assistance
- Blame for what goes wrong, no one accepts responsibility
- Lack of support for others
- Frequently absent impacting time and creating additional work for others

https://www.pmi.org/learning/library/team-building-development-project-management-5707

L3 - Intended Learning Objectives

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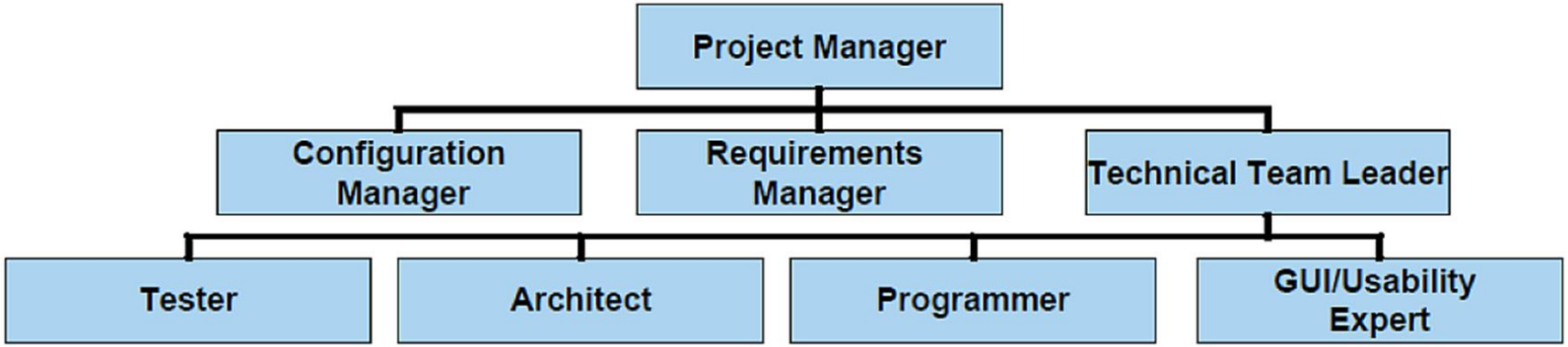
L3.7 Understand team structures.

L3.8 Understand the advantages & disadvantages of teams.

L3.7 – Team Structures

Controlled Centralised

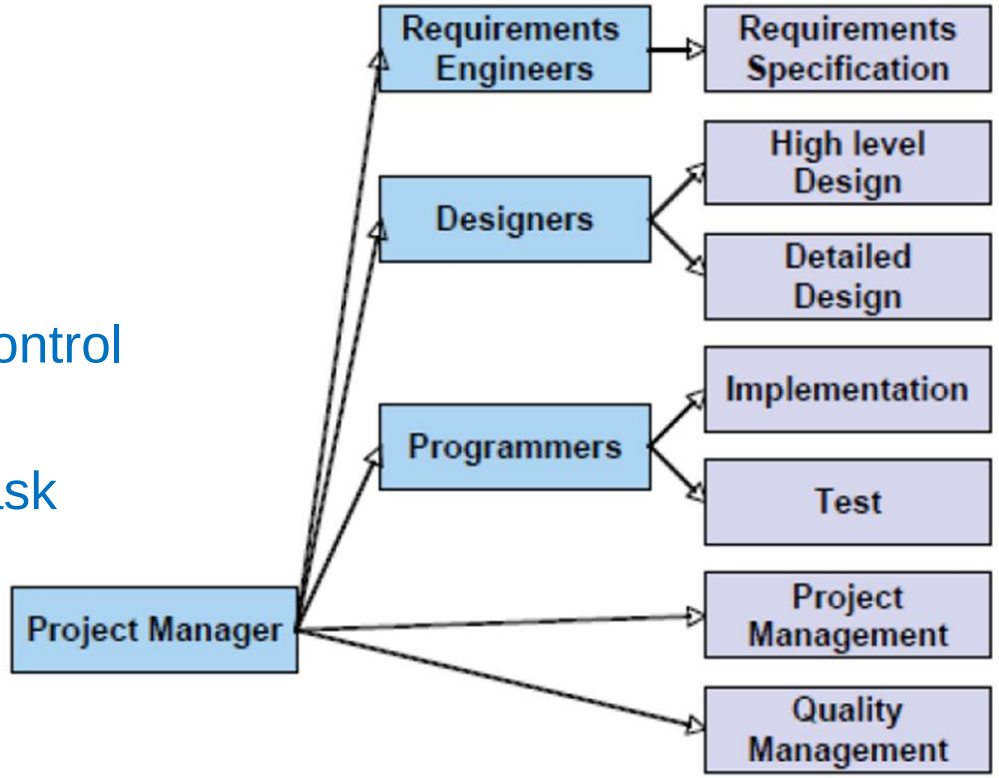
- Leader coordinates tasks and directs work
- Communication and Control are vertical
- Sub-teams with leaders to direct and guide sub-groups



L3.7 – Team Structures

Controlled Decentralised

- Leader coordinates tasks
- Sub-teams with leaders
- Communication horizontal Control is vertical
- Problem solving is a team task



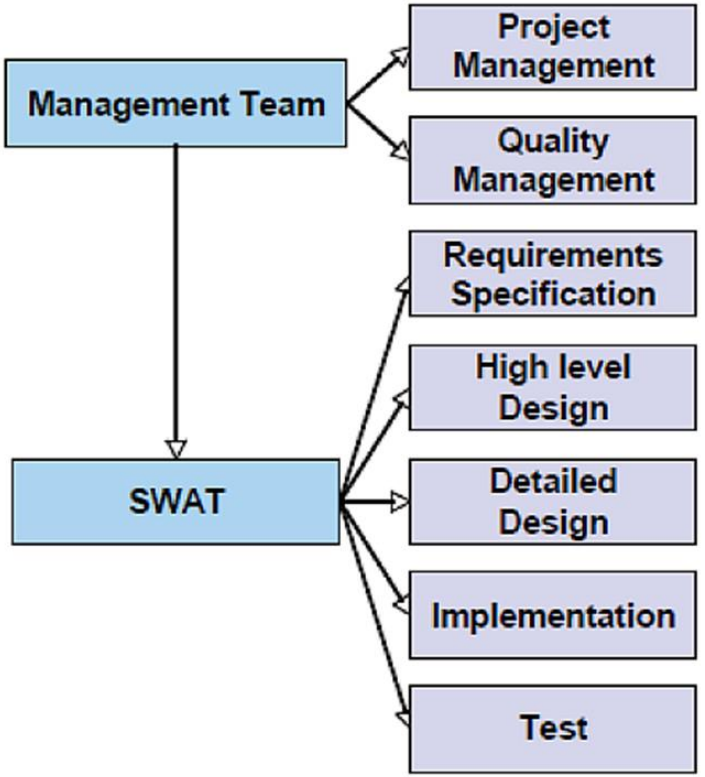
L3.7 – Team Structures

SWAT Team

- No permanent leader
- A highly specialised team
- Put together for a particular tasks

  e.g. - Build a prototype,

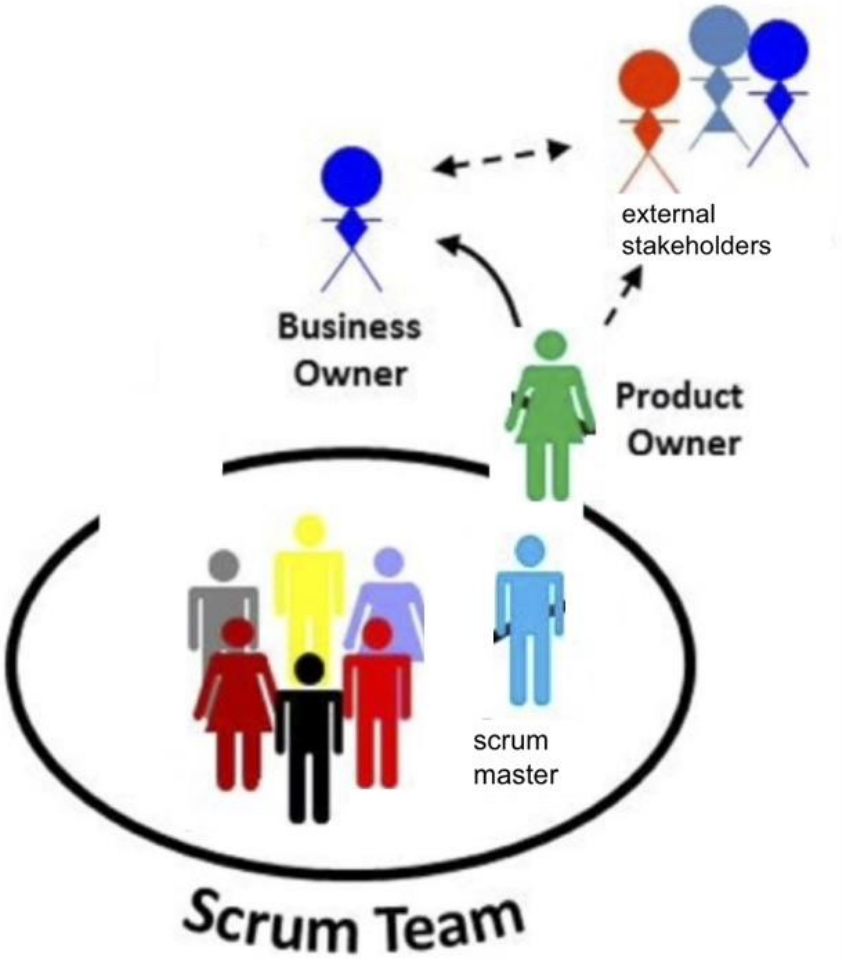
  - Production problem



L3.7 – Team Structures

Scrum Team

- Used in Agile



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L3.8 – Teams Advantages & Disadvantages

Advantages

- Provides a larger pool of ideas – creative & collective problem solving
- Interaction enhances the knowledge of the whole team
- Individuals working together can stimulate performance, motivation and output
- Provides continuity across the tasks if people leave
- Increased ownership of the overall outcome & not just the individual component

Disadvantages

- It take time, effort and great skill to effectively manage
- Some individuals find it difficult and may become overshadowed / overwhelmed
- Unequal involvement - Some people may not pull their weight
- One person can demoralise the whole team
- Social loafing
- Group think

What is a Team?

One or more people with an individual skill set working next to each other to achieve an outcome.

A collection of people working together who do not necessarily work collectively toward the same goal.

Two or more individuals consciously working together to achieve a common objective.

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Why do we use teams?

Few individuals possess all the knowledge, skills, and abilities needed to accomplish all tasks.

Complementary teamwork skills are one of the most commonly required skills in the work environment.

Substantial benefits to the organisation and to the team members.

Shared accountability increases likelihood of success.

All of the above.

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What is a Positive sign of an effective team?

No clear roles and responsibilities.

Commitment to the project outcomes and the other team members.

Blame for what goes wrong, no one accepts responsibility.

Team members work alone, rarely sharing information and offering assistance.

Lack of support for others.

All of the above.

Start the presentation to see live content. Still no live content? Install the app or get help at **PollEv.com/app**

Semester Structure

Week #	Lecture Date	Lecture Law G15 – Thursday 9.00am to 11.00am	Assignment
1	07/03/19	Subject Introduction, Introduction to Projects and Project Management,	
2	14/03/19	Project Management Plan & SDLC's	Assignment 1 Spec available on LMS 15/3
3	21/03/19	Individuals, Motivation and Teams	
4	**28/03/19**	**Stakeholder Management Communication Management**	**Assignment 2 available & Groups created during the workshops / tutorials – attendance mandatory**
5	04/04/19	Project Planning and Scheduling Assignment 1 & 2 open forum / discussion	Assignment 1 (Individual) due Fri 5/4 @ 11.59 pm
6	11/04/19	Cost Estimation	
7	18/04/19	Risk Management	
	25/04/19	***Non Teaching Week – Mid semester break***	Assignment 2 (Part 1) due Wed 24/4 @ 11.59 pm
8	02/05/19	Quality Management	
9	09/05/19	Configuration Management (including guest lecture)	Assignment 2 (Part 2) due Sat 11/5 @ 11.59 pm
10	16/05/19	Ethics, Outsourcing & Procurement	Assignment 2 (Part 3) due Sat 18/5 @ 11.59 pm
11	23/05/19	Guest Lecture	Assignment 2 (Final) due Sat 25/5 @ 11.59 pm
12	30/05/19	Subject Revision and Exam Prep	Assignment 2 Project Demonstration during tutorials